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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,058	09/19/2006	Guofu Zhou	US040105	1859

24737 7590 10/15/2009
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

SHARIFI-TAFRESHI, KOOSHA

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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10/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,058	Applicant(s) ZHOU ET AL.	
	Examiner Koosha Sharifi	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/19/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: p.9, line 6 of Specification: "This technique is schematically shown in Fig.5(b) and (c)..." Note that there is no Fig. 5(c)..

Appropriate correction is required.

Drawings

1. Figure 5A and B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the shaking pulse (S1) are applied to the at least a portion of the bi-stable display between the at least one reset pulse (RE1) and the driving pulse (DR)" of claim 10, furthermore "the additional reset duration" of claim 11 must be shown or the feature(s) canceled from the claim(s).

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Note that the drawings do not show a shaking pulse in between RE1 and DR. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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2. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1:

The specification does not sufficiently provided enablement for one skill in the art for the recitation of the claim “and an energy of at least a portion of the at least one voltage waveform is set based on the previous image state.” The specification does not teach one skill in the art **how** is the energy of at least a portion of the at least one voltage waveform set based on the previous image state, how is this done?

Regarding claims 2-12:

Claims 2-12 depend on claim 1 and inherit the same deficiencies as discussed above.

Regarding claim 13:

Same deficiencies as discussed in claim 1 above.

Regarding claim 14:

Same deficiencies as discussed in claim 1 above.

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, 13, 15, 19 and 20:

Claims recite an "optical rail state". It is unclear what an optical rail state is. Further clarification is required.

Regarding claims 2-12:

Claims 2-12 depend on claim 1 and inherit the same deficiencies as discussed above.

Regarding claim 16-18:

Claims 16- 18 depend on claim 15 and inherit the same deficiencies as discussed above.

Regarding claim 9 and 10:

Claims recite a shaking pulse. It is unclear what a shaking pulse it. How can a pulse shake?

Regarding claim 15, 19 and 20:

Claims recite “image error”. It is unclear what Applicant considers to be an image error? What is an image error?

Regarding claim 16-18:

Claims 16-18 depend on claim 15 and inherit the same deficiencies as discussed above.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-12 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by

[Katase; Makoto, US 20040085610 A1].

Regarding claim 1:

Katase discloses:

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A method for updating at least a portion of a bi-stable display [**Katase: Fig.2;**

Examiner: Entire displaying surface of Katase corresponds to Applicant's "at least a portion"] in a transition from a current image state to a subsequent image state [**Katase; Paragraph 0067; Fig.3, 4, 9. Also inherent from Katase's display, displays display frame each frame is shown and then erased for the next frame to be shown**], comprising:

accessing data defining a previous image state that precedes the current image state [**Examiner: Inherent from Katase's display. Frames are successively shown to form an image or moving image. See also Fig.5**];

accessing data defining at least one voltage waveform (600, 620, 640, 660; 700, 720, 740, 760) according to the previous image state, the current image state, and the subsequent image state [**Examiner: Inherent that each image to be written to the display has an associate electrical pulse. See also Fig.4, 9**]; and

driving the at least a portion of the bi-stable display (310) [**Katase: Fig.2; Examiner: Entire displaying surface of Katase corresponds to Applicant's "at least a portion"**] from the current image state to the subsequent image state according to the at least one voltage waveform [**Katase: Fig.4**] such that the at least a portion of the bi-stable display [**Katase: Fig.2; Examiner: Entire displaying surface of Katase corresponds to Applicant's "at least a portion"**] is driven from the current image state to an optical rail state via at least one reset pulse (RE1, RE2) of the at least one voltage waveform [**Katase: Fig.4: RESET WRITING; Fig.5: RESET ACTION, RESET WRITING; Fig.9: RESET; Paragraph 0044: "The reset data Drest is used for**

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attracting the electrophoresis particles 12 being electrophoresed in the dispersion medium 10 toward any one of the electrodes, and for initializing the spatial conditions thereof”]], and subsequently from the optical rail state to the subsequent image state via a driving pulse (DR) of the at least one voltage waveform **[Katase: Fig.4: WRITING; Fig.5: WRITING; Fig.9: WRITING]**, and an energy **[Katase: Vcom]** of at least a portion of the at least one voltage waveform is set based on the previous image state **[Katase: Fig.4 and 9]**.

Regarding claim 2:

Katase discloses:

The method of claim 1, wherein: the at least a portion of the at least one voltage waveform whose energy is set based on the previous image state comprises the at least one reset pulse (RE1, RE2) **[Katase: Fig.4: RESER WRITING; Fig.5: RESET, RESET WRITING; Fig.9: RESET]**.

Regarding claim 3:

Katase discloses:

The method of claim 1, wherein:
the at least a portion of the at least one voltage waveform whose energy is set based on the previous image state comprises the drive pulse (DR) **[Katase: Fig.4: WRITING; Fig.5: WRITING; Fig.9: WRITING]**.

Regarding claim 4:

Katase discloses:

The method of claim 1, wherein:

the driving comprises driving the at least a portion of the bi-stable display such that the at least a portion of the bi-stable display is driven from the current image state to the optical rail state, which is the optical rail state closest to the subsequent image state, via the at least a first reset pulse (RE1, RE2) **[Katase: Fig.4: RESER WRITING; Fig.5: RESET, RESET WRITING; Fig.9: RESET; Paragraph 0044: “The reset data Drest is used for attracting the electrophoresis particles 12 being electrophoresed in the dispersion medium 10 toward any one of the electrodes, and for initializing the spatial conditions thereof”]].**

Regarding claim 5:

Katase discloses:

The method of claim 1, wherein:

the at least one reset pulse (RE1, RE2) causes charged particles in the bi-stable display to simultaneously occupy one of the extreme positions corresponding to one of the optical rail states **[Katase: Paragraph 0044: “The reset data Drest is used for attracting the electrophoresis particles 12 being electrophoresed in the dispersion medium 10 toward any one of the electrodes, and for initializing the spatial conditions thereof”]].**

Regarding claim 6:

Katase discloses:

The method of claim 1, wherein:

the accessing data defining the at least one voltage waveform comprises accessing data defining the at least one voltage waveform from among data defining a plurality of available voltage waveforms **[Examiner: Inherent that each image to be written to the display has an associate electrical pulse. See also Fig.4, 9]** that are associated with the transition from the current image state to the subsequent image state **[Katase; Paragraph 0067; Fig.3, 4, 9. Also inherent from Katase's display, displays display frame each frame is shown and then erased for the next frame to be shown]**; and each of the plurality of available voltage waveforms is associated with a respective different previous state **[Katase: Fig.4: "Differential Writing" or Vcom]** .

Regarding claim 7:

Katase discloses:

The method of claim 1, wherein:

the accessing data defining the at least one voltage waveform comprises accessing data defining the at least one voltage waveform from among data defining a plurality of available voltage waveforms **[Examiner: Inherent that each image to be written to the display has an associate electrical pulse. See also Fig.4, 9]** that are associated with the transition from the current image state to the subsequent image state **[Katase;**

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Paragraph 0067; Fig.3, 4, 9. Also inherent from Katase's display, displays display frame each frame is shown and then erased for the next frame to be shown]; and at least one of plurality of available voltage waveforms is associated with a plurality of different previous states [Katase: Fig.4: "Differential Writing" or Vcom].

Regarding claim 8:

Katase discloses:

The method of claim 1, wherein:

the driving comprises driving the at least a portion of the bi-stable display such that a further reset pulse (RE2) of opposite polarity to the at least one reset pulse (RE1)

[Katase: Fig.4 and 5: Vrest], and preceding the at least one reset pulse (RE1), is applied to the at least a portion of the bi- stable display **[Examiner: Precedes RESET during t1]**.

Regarding claim 9:

The method of claim 1, wherein:

the driving comprises driving the at least a portion of the bi-stable display such that shaking pulses (S1) are applied to the at least a portion of the bi-stable display **[Katase:**

Fig. 4 and 9: V1 and V2...V3 can be interpreted as shaking pulse since the amplitude is differing (shaking?), Furthermore, Vcom has pulse in positive and negative polarity this also can be interpreted as pulses which are "shaking"].

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Regarding claim 10:

Katase discloses:

The method of claim 9, wherein:

the driving comprises driving the at least a portion of the bi-stable display such that the shaking pulses (S1) **[Katase: Fig.4 and 9; For e.g. V2 and V3 or Vd2 and Vd3 can be considered shaking pulses]** are applied to the at least a portion of the bi-stable display between the at least one reset pulse (RE1) **[Katase: Fig.4 and 9: V1 or Vd1]** and the driving pulse (DR) **[Katase: Fig.4 and 9: V4 and V5 or Vd4 and Vd5]**.

Regarding claim 11:

Katase discloses:

The method of claim 1, wherein: the at least one reset pulse (RE 1, RE2) has an additional reset duration **[Katase: Fig.4 and 9: Note that there is a RESET at t1 and another “additional reset duration” at t(n)]**.

Regarding claim 12:

Katase discloses:

The method of claim 1, wherein: the bi-stable display comprises an electrophoretic display **[Katase: Paragraph 0014]**.

Regarding claim 13:

The limitations of claim 13 have been addressed in the discussion of claim 1 above.

Regarding claim 14:

The limitations of claim 14 have been addressed in the discussion of claim 1 above.

Claims 15, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by **[Zehner, Robert W. et al., US 20030137521 A1]**.

Regarding claim 15:

Zehner discloses:

A method for providing at least one voltage waveform for updating at least a portion of a bi-stable display **[Examiner: All of the displaying surface of Zehner's display corresponds to Applicant's "at least a portion"]** in a transition from a current image state to a subsequent image state **[Zehner: Fig.8; Examiner: Inherent that Zehner's display displays image/ frames and transition from one image to another (update display), see Fig.8 NEW IMAGE 308 if Y then Erase and Reset and Write Image. Also inherent that frames/ images have an associate voltage, for e.g. Write Image (308) inherently has an associate Write Voltage]**, comprising: providing respective different voltage waveforms **[Inherent from Fig.8. Write Image necessarily done via voltages]** for achieving the transition from

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the current image state **[Inherent from Fig.8]**, which is preceded by a previous image state **[Inherent from Fig.8]**, to the subsequent image state **[Inherent from Fig.8]**; determining respective image errors **[Zehner: Paragraph 0166]** when driving the at least a portion of the bi-stable display (310) **[Examiner: All of the displaying surface of Zehner's display corresponds to Applicant's "at least a portion"]** from the previous image state **Inherent from Fig.8]** to the current image state **[Inherent from Fig.8]**, and, using the respective different voltage waveforms **[Inherent from Fig.8. Write Image, Erase, etc are necessarily done via voltages]**, from the current image state to the subsequent image state **[Zehner: Fig.8: NEW IMAGE: Y: RESET: WRITE IMAGE]**; and selecting one of the respective different voltage waveforms (600, 620, 640, 660;700, 720, 740, 760) **[Zehner: Fig.9 and 10]** that is associated with the smallest of the respective image errors for subsequent use in driving the at least a portion of the bi-stable display (310) from the current image state to the subsequent image state after the at least a portion of the bi-stable display (310) is driven from the previous image state to the current image state **[Zehner: Paragraph 0191]**.

Regarding claim 16:

Zehner discloses:

The method of claim 15, wherein: the providing the respective different voltage waveforms comprises providing the respective different voltage waveforms with reset pulses (RE1, RE2) having different energies **[Zehner: Paragraph 0150; See also Fig. 9 and 10: 304]**.

Regarding claim 17:

Zehner discloses:

The method of claim 15, wherein: the providing the respective different voltage waveforms comprises providing the respective different voltage waveforms with drive pulses (DR) having different energies [**Zehner: Paragraph 0054: “c) applying a second driving pulse to the pixel following the measurement of the remnant voltage, the magnitude of the second driving pulse being controlled dependent upon the measured remnant voltage to reduce the remnant voltage of the pixel”**].

Regarding claim 18:

Zehner discloses:

The method of claim 15, wherein: the bi-stable display comprises an electrophoretic display [**Zehner: Paragraph 0051**].

Regarding claim 19:

The limitations of claim 19 have been addressed in the discussion of claim 15 above.

Regarding claim 20:

The limitations of claim 20 have been addressed in the discussion of claim 15 above.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

[Sato; Teruo, US 4041481 A] discloses: A scanning apparatus for an electrophoretic matrix display panel.

[Machida; Yoshinori et al., US 6753844 B2] discloses: Initializing Drive. See Figs.

[Shikina, Noriyuki et al., US 20040227720 A1] discloses: Reset and Drive pulses. See Fig.1.

[Amundson, Karl R. et al., US 20050001812 A1] discloses: Methods for driving bistable electro-optic displays, and apparatus for use therein.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Koosha Sharifi whose telephone number is (571) 270-5897. The examiner can normally be reached on Mon - Fri / 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Koosha Sharifi
Examiner
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